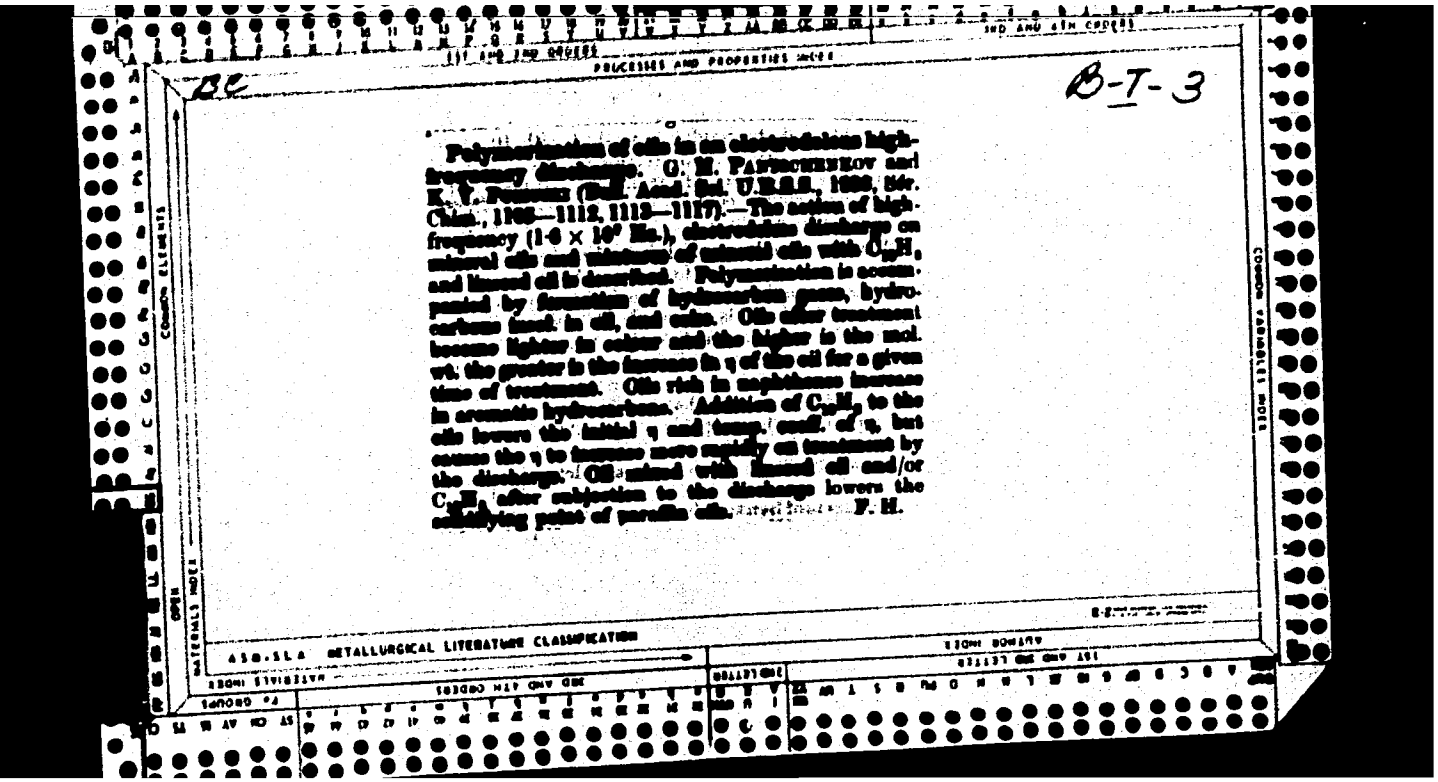
PROCESSES AND PROPERTIES INDEX

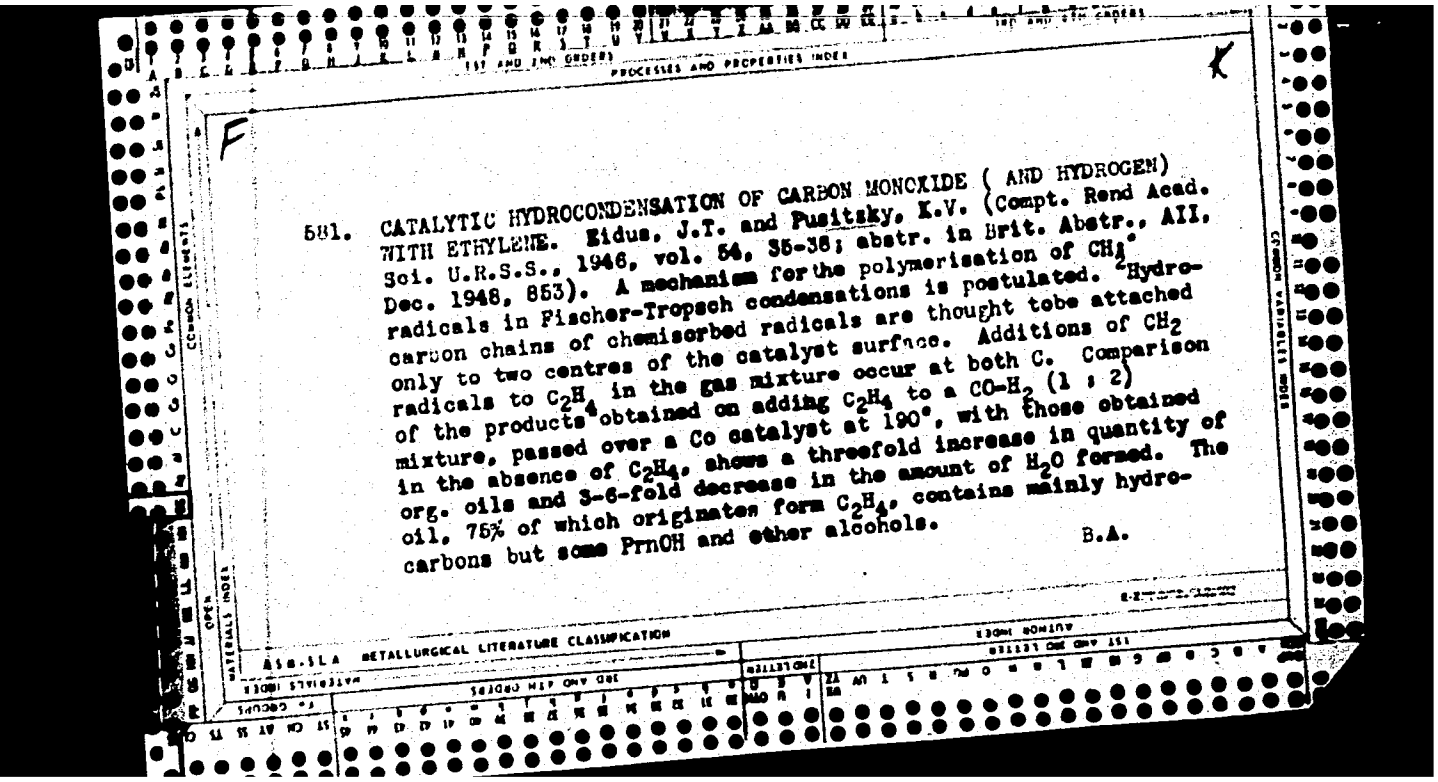
Increasing viscosity of oils by the action of ultraviolet rays. G. M. Panchenkov and K. S. Pestchit.—*J. Gen. Chem.* (U. S. S. R.) 7, 394-401 (1937).—In a study of the effect of ultraviolet radiation on the viscosity of lubricating oils, it was found that only waves of some definite lengths produce an increase in viscosity. The effect increases with time of radiation, and the increase is directly proportional to the mol. wt. of the hydrocarbons of the oils, and inversely proportional to the wave length. The effect cannot be explained on the basis of heat produced by the ultraviolet rays, since the temp. change is insignificant, but only on the basis of polymerization and isomerization of the hydrocarbon oils. S. L. Madorsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



B-T-3

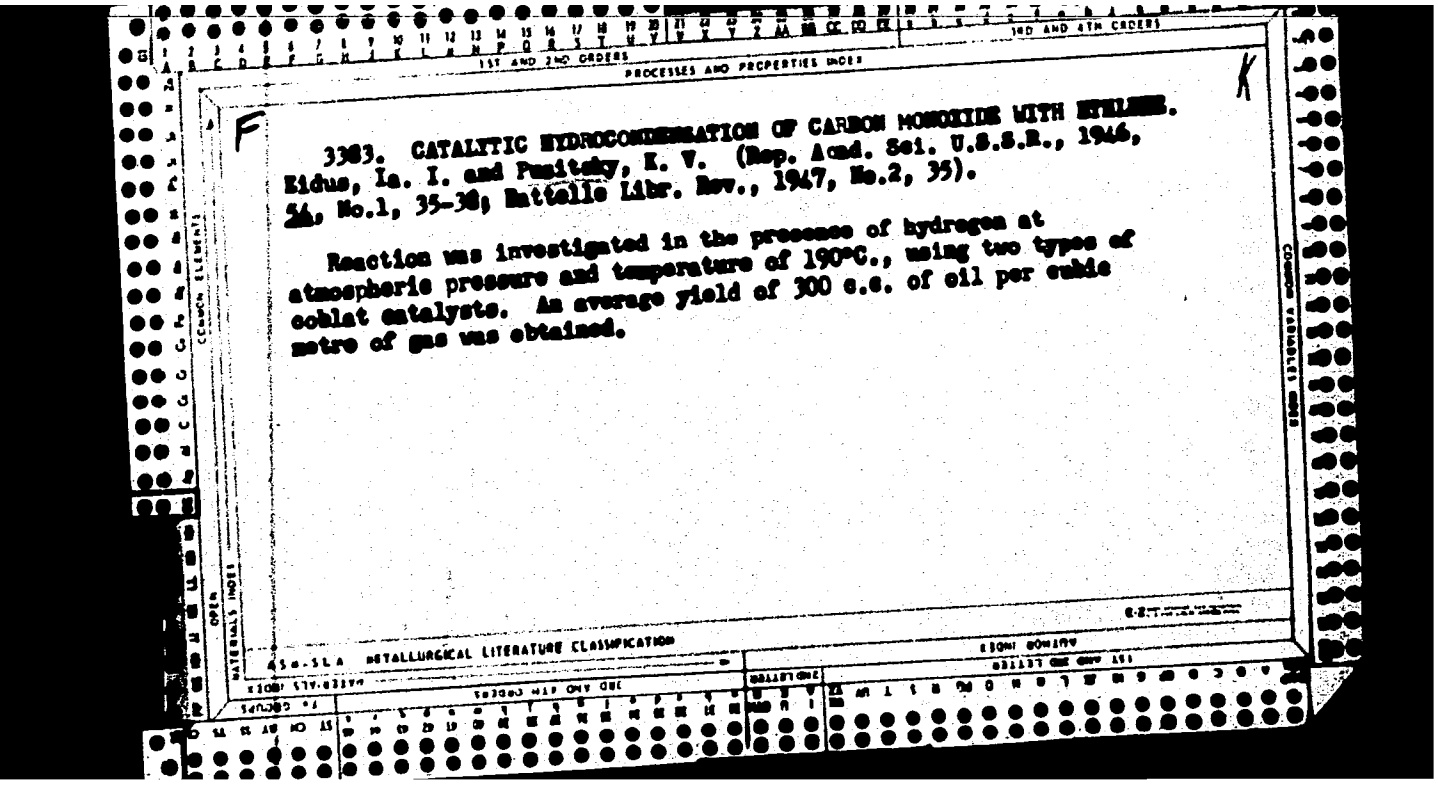
Polymerization of oils in an electrodeless high-frequency discharge. G. M. PAPUCHERYOV and K. V. PETROVA (Bull. Acad. Sci. U.R.S.S., 1936, Sér. Chim., 1105—1112, 1113—1117).—The action of high-frequency ($1{\cdot}6 \times 10^7$ ~) electrodeless discharge on mineral oils and mixtures of mineral oils with C_6H_6, and linseed oil is described. Polymerization is accompanied by formation of hydrocarbon gases, hydrocarbons insol. in oil, and coke. Oils after treatment become lighter in colour and the higher is the mol. wt. the greater is the increase in η of the oil for a given time of treatment. Oils rich in naphthenes increase in aromatic hydrocarbons. Addition of C_6H_6 to the oils lowers the initial η and temp. coeff. of η, but causes the η to increase more rapidly on treatment by the discharge. Oil mixed with linseed oil and/or C_6H_6 after subjection to the discharge lowers the solidifying point of paraffin oils. F. H.



F

581. CATALYTIC HYDROCONDENSATION OF CARBON MONOXIDE (AND HYDROGEN) WITH ETHYLENE. Eidus, J.T. and Pusitsky, K.V. (Compt. Rend Acad. Sci. U.R.S.S., 1946, vol. 54, 35-38; abstr. in Brit. Abstr., AII, Dec. 1948, 853). A mechanism for the polymerisation of CH_2 radicals in Fischer-Tropsch condensations is postulated. Hydrocarbon chains of chemisorbed radicals are thought tobe attached only to two centres of the catalyst surface. Additions of CH_2 radicals to C_2H_4 in the gas mixture occur at both C. Comparison of the products obtained on adding C_2H_4 to a $CO-H_2$ (1 : 2) mixture, passed over a Co catalyst at 190°, with those obtained in the absence of C_2H_4, shows a threefold increase in quantity of org. oils and 3-6-fold decrease in the amount of H_2O formed. The oil, 75% of which originates form C_2H_4, contains mainly hydrocarbons but some PrnOH and other alcohols.

B.A.



3383. CATALYTIC HYDROCONDENSATION OF CARBON MONOXIDE WITH ETHYLENE. Eidus, Ia. I. and Puzitsky, K. V. (Rep. Acad. Sci. U.S.S.R., 1946, 54, No.1, 35-38; Battelle Libr. Rev., 1947, No.2, 35).

Reaction was investigated in the presence of hydrogen at atmospheric pressure and temperature of 190°C., using two types of cobalt catalysts. An average yield of 300 c.c. of oil per cubic metre of gas was obtained.

Kamlitskiy, K. V. Acad Chem Sci

Dissertation: "Synthesis of Hydrocarbons from a Mixture of Carbon, Hydrogen and Olefin (Ethylene, Propylene)."

9 June 49

Inst of Organic Chemistry, Acad Sci USSR

SO Vecheryaya Moskva
Sum 71

PUZITSKIY, K. V.

"Catalytic Hydrocondensation of Carbon Monoxide with Olefines: I. Hydrocondensation of CO with Ethylene," Iz. Ak. Nauk SSSR, Otdel. Khim. Nauk, No. 1, 1949.

Inst. Organic Chemistry im N. D. Zelenskiy, Acad. Sci. USSR

PUZITSKIY, K. V.

USSR/ Chemistry - Hydrocarbons, Liquid
Chemistry - Condensation Compounds May/Jun 49

"Catalytic Hydrocondensation of Carbon Monoxide With Olefines: No II, Investigation of the Liquid Products of the Condensation of Carbon Monoxide With Ethylene," Ya. T. Eydus, N. D. Zelinskiy, K. V. Puzitskiy, Inst of Org Chem, Acad Sci USSR, 7 pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 3

Subject products are chiefly propanol, propionic aldehyde, propionic acid, and aliphatic saturated and unsaturated hydrocarbons. Formation of the hydrocarbons is effected by the methylene radical. Submitted 12 Mar 48.

AP 56/49T19

PUZITSKIY, K. V.

USSR/Chemistry - Hydrocondensation Jan/Feb 52

"The Catalytic Hydrocondensation of Carbon Monoxide With Olefins. VII: Effect of the Concentration of Carbon Monoxide on Its Hydrocondensation With Propene and n-Butene," Ya. T. Eydus, N. D. Zelinskiy, K. V. Puzitskiy, N. I. Yershov, Inst of Org Chem, Acad Sci USSR

"Iz Ak Nauk, Otdel Khim Nauk" No 1, 1952, pp 145-151

Hydrocondensation of propene-hydrogen and butene-hydrogen mixts does not occur in absence of CO. Reaction rate of Hydrocondensation of propene and butene is highest with 6-8% CO in the original gas mixt. If the original mixt contains 15-20% CO, hydrocondensation with propene and butene is sharply retarded, as distinguished from the same process carried out with ethylene.

208T11

REYDUS, Ya.T.; ZELINSKIY, N.D.; PUZITSKIY, K.V.; YERSHOV, N.I.

Catalytic hydrocondensation of carbon monoxide with olefins. VII. Effect of the concentration of carbon monoxide on its hydrocondensation with propylene and with butylene. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. '52, 157-63 [Engl. translation].
(CA 47 no.19:9896 '53)

EYDUS, Ya.T.; PUZITSKIY, K.V.; BATUYEV, M.I.

Catalytic hydrocondensation of carbon monoxide with olefins. VIII. Hydrocondensation of carbon monoxide with isobutylene. Izvest. Akad. Nauk S.S.S.R. Otdel Khim. Nauk '52, 978-81. (MLRA 5:11)
(CA 47 no.21:11122 '53)

1. Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow.

PUZITSKIY, K. V.

USSR/Chemistry - Fuels Jul 53

"Polymerization and Other Transformations of Ethylene and Propylene Under the Action of Heat, Free Radicals, and Other Active Particles," Ya.T. Eidus and K.V. Puzitskiy (Moscow)

Zhur Prik Khim, Vol 22, No 7, pp 838-877

Discusses the thermal polymerization of ethylene (I) and propylene (II) under pressures both below and above atm. Goes on to discuss the polymerization of I and II under the action of photons, excited metal atoms, free atoms, and radicals. Also discusses the polymerization of I and II in electrical discharge fields (electropolymerization). Bibliography consists of 204 references of which 25 are Russian and the remainder of western origin.

273T29

273T29

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343710020-0"

PUZITSKII, K.V.

USSR

Catalytic hydrocondensation of carbon monoxide with olefins. XI. Behavior of trimethylethylene and tetramethylethylene in hydrocondensational catalysis. Ya. T. Eidus, K. V. Puzitskii, and A. P. Simonova. (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk 1954, 149-53; Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. 1954, 123-6 (English translation); cf. C.A. 49, 4510h.—A study of hydrocondensation of CO with $Me_2C:CHMe$ and $Me_2C:CMe_2$ showed that $Me_2C:CHMe$ enters hydrocondensation only to the extent of 5-6% while 90-5% is hydrogenated to isopentane; $Me_2C:CMe_2$ enters hydrocondensation with CO to the extent of 10%, while 50% is hydrogenated to 2,3-dimethylbutane. The hydrocondensation products were not identified. Dehydration of iso-AmOH over Al_2O_3 at 450-500° gave mixed iso-$PrCH:CH_2$, $Me_2C:CHMe$ and $MeEtC:CH_2$; the mixt. was treated with dil. H_2SO_4 with ice cooling, and the inf. layer sepd. and dild., yielding 45% $Me_2C:CHMe$, b$_{760}$ 37-8°, d_0 0.6590, n_D^{20} 1.3860. Me_2CAc was hydrogenated over 30% Ni catalyst (cf. Bag, *et al.*, C.A. 28, 2558^9) at 80-100 atm. H and 160-80°; the resulting $Me_2CCH(OH)Me$, b$_{760}$ 118-20°, dehydrated over $Al_2(SO_4)_3$ 27 hrs. at 275° gave, after extensive fractionation, $Me_2C:CMe_2$, b. 71-3°, d_0 0.7075, n_D^{20} 1.4128. G. M. K.

PUZITSKIY, K. V.

USSR

Catalytic hydrocondensation of carbon monoxide with olefines. XII. Hydrocondensation of carbon monoxide with hex-1-ene.

Ya. T. Eidus, N. F. Yershov, and Ye. M. Terent'eva. XIII. Effects of varying the ratio of ethylene to hydrogen in the initial gas, of dilution with nitrogen, and of varying the rate of flow on hydrocondensation of carbon monoxide with ethylene. Ya. T. Eidus, K. V. Puzitskii, and I. V. Guseva (*Izvestia Akad. Nauk SSSR, Otdel. Khim. Nauk*, 1954, 882—889, 890—897).—XII. The main product obtained when 1 : 3 hex-1-ene–H_2 mixtures are passed over an unspecified catalyst at 190° is *n*-C_6H_{14} (71% yield), with about 9% of higher b.p. hydrocarbons (C_7 or more). Mixtures containing hex-1-ene 55—61, CO 4·6—7, and H_2 34—38% give 38—40% yields of higher hydrocarbons, and only 35—36% yields of *n*-C_6H_{14}.

XIII. The highest yields of oils from C_2H_4–CO–H_2 mixtures containing 3—6% of CO are obtained with 3 vol. of C_2H_4 to 1 vol. of H_2; the content of unsaturated hydrocarbons in the gasoline fraction rises steeply as the C_2H_4 : H_2 ratio rises from 1 to 3. The overall yield of oils falls with increasing dilution with N_2, from 4·6 to 71%; the yield of heavy oil is const. over this range, of light oil rises, and of gasoline falls, as the N_2 content rises from 5 to 55%. The yields calculated as ml. of oil per cu. m. of gas are unaffected, and calculated as ml./l./hr. rise linearly when the rate of flow of the gas is increased.

R. Taussen.

62
4

PUZITSKIY, K.V.

AID P - 1311

Subject : USSR/Chemistry

Card 1/1 Pub. 119 - 5/5

Authors : Eydus, Ya. T. and Puzitskiy, K. V. (Moscow)

Title : Catalytic polymerization of ethylene and propylene

Periodical : Usp. khim., 23, no. 8, 986-1026, 1954

Abstract : The catalytic effect of mineral acids, metallic halides and of heterogeneous catalysts on the polymerization of ethylene and propylene is covered. 220 references (32 Russian: 1873-1951).

Institution : None

Submitted : No date

SOV/20-120-2-27/63

AUTHORS: Eydus, Ya. T., Puzitskiy, K. V., Ryabova, K. C.

TITLE: On the Synthesis of Esters and Other Derivatives of Carboxylic Acids From Carbon Monoxide, Olefines and Acetylating Compounds Under Conditions of Acid Catalysis (O sinteze slozhnykh efirov i drugikh proizvodnykh karbonovykh kislot v usloviyakh kislotnogo kataliza iz okisi ugleroda, olefinov i atsiliruyushchikhsya soyedineniy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 2, pp. 323 - 325 (USSR)

ABSTRACT: These reactions have been very little investigated. They were hitherto only performed in the simultaneous presence of all initial components in the reaction mixture and under very hard conditions. The yields were fairly small. In the present paper new ways of synthesis of these esters are described which lead to success under conditions very mild for such reactions: at o - 50°C and a pressure of from atmospheric absolute pressure to 80 atmospheres excess pressure. Possibilities of synthesis of other derivatives of carboxylic acids under analogous con-

Card 1/3

On the Synthesis of Esters and Other Derivatives of Carboxylic Acids From Carbon Monoxide, Olefines and Acetylating Compounds Under Conditions of Acid Catalysis

SOV/20-120-2-27/63

ditions are also discussed. This synthesis was obtained in 2 stages. At first only olefines and CO were present in the reaction mixture which, due to interaction with the catalyst (concentrated sulfuric acid), formed an intermediate complex. Then alcohol was added which reacted with the complex and formed the desired esters, H_2SO_4 being regenerated. The theoretical examination of the nature of this intermediate complex permits to draw the following conclusions: 1) The complex possesses properties of an acetylating agent. 2) The complex is according to its composition and structure very close, if not identical (Reference 4), to the mixed H_2SO_4-anhydride and the anhydride of carboxylic acid. 3) The formation of the complex takes place under the temporary formation of carbonium-ions. From these conclusions reaction schemes are set up. In the present paper the results obtained by the authors in the investigation of the formation reaction of methyl ester of carboxylic acids from isobutylene as well as from liquid olefines are shortly described.

Card 2/3

On the Synthesis of Esters and Other Derivatives of Carboxylic Acids From Carbon Monoxide, Olefines and Acetylating Compounds Under Conditions of Acid Catalysis

SOV/20-120-2-27/63

Details are described in a kind of experimental part. There are 7 references, 1 of which is Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy, AS USSR)

PRESENTED: January 27, 1958, by B. A. Kazanskiy, Member, Academy of Sciences, USSR

SUBMITTED: January 21, 1958

1. Esters-Synthesis 2. Carboxylic acids--Applications
3. Sulfuric acid catalysts--Applications

Card 3/3

SOV/80-32-2-31/56

AUTHORS: Puzitskiy, K.V., Rabinovich, A.Ya., Eydus, Ya.T.

TITLE: The Synthesis of Detergents From Hydrocarbons of Synthol (Sintez moyushchikh veshchestv iz uglevodorodov sintina)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 2, pp 404-408 (USSR)

ABSTRACT: The sodium salts of alkylbenzenesulfoacids which may be synthetized from petroleum fractions and artificial fuel are good detergents [Ref 1 - 5]. The synthesis of these detergents on the base of hydrocarbons from synthol is investigated here. In Table 2 the obtained monoalkylbenzenes are given. The physical constants of alkylates are a little increased due to the admixtures of diphenylalkanes formed during chlorination of the hydrated synthol. The aqueous solutions obtained from synthol fractions of C_{10} - C_{15} have good emulsifying properties, the samples obtained from the fractions C_8 - C_{13} are resistant to hard water. The fractions C_9 - C_{15} have a high foaming capacity. An increase of the pH raises the surface-active properties of the solutions: the surface tension and the wetting and emulsifying properties.
There are 5 tables and 5 references, 2 of which are Soviet, 2 English, and 1 American.

Card 1/2

The Synthesis of Detergents From Hydrocarbons of Synthol SOV/80-32-2-31/56

ASSOCIATION: Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR; Mosk. filial Vsesoyuznogo nauchno-issledovatel'skogo instituta zhirov (Institute of Organic Chemistry imeni N.D. Zelinskiy of the USSR Academy of Sciences and the Moscow Branch of the All-Union Scientific Research Institute of Fats)

SUBMITTED: July 1, 1957

Card 2/2

SOV/80-32-2-34/56

AUTHORS: Eydus, Ya.T., Puzitskiy, K.V., Rabinovich, A.Yu.

TITLE: Synthesis of Detergents From Olefins Produced by Hydrocondensation of Carbon Monoxide With Ethylene and Propylene (Sintez moyushchikh veshchestv iz olefinov, poluchennykh gidrokondensatsiyey okisi ugleroda s etilenom i propilenom)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 2, pp 423-428 (USSR)

ABSTRACT: Sodium alkylbenzenesulfonates on the base of olefins prepared by catalytic hydrocondensation of carbon monoxide with ethylene and propylene are investigated here as to their surface-active and detergent properties. At low pH values aqueous solutions of alkylbenzene sulfonates show no emulsifying properties. The fractions of the ethylene hydrocondensate from C_7 to C_{11} have a high resistance to hard and sea water. The foam of the fractions C_{12} and C_{13} is very abundant and dense. The detergent properties of alkylbenzenesulfonates of the fractions C_{10} - C_{12} are somewhat better than those of fat soaps. There are 5 tables and 3 references, 2 of which are Soviet and 1 American.

Card 1/2

SOV/80-32-2-34/56

Synthesis of Detergents From Olefins Produced by Hydrocondensation of Carbon Monoxide With Ethylene and Propylene

ASSOCIATION: Institut organicheskoy khimii imeni N.D. Zelinskogo i Moskovskiy filial VNII zhirov (Institute of Organic Chemistry imeni N.D. Zelinskiy and the Moscow Branch of the All-Union Scientific Research Institute of Fats)

SUBMITTED: July 1, 1957

Card 2/2

5(3) SOV/20-128-3-33/58

AUTHORS: Puzitskiy, K. V., Eydus, Ya. T., Ryabova, K. G., Guseva, I.V.

TITLE: Synthesis of Carboxylic Esters From Carbon Monoxide, Cyclo-olefines and Alcohols

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 3, pp 555-557 (USSR)

ABSTRACT: The authors reported on the synthesis method mentioned in the title and developed by them (Ref 1). The synthesis proceeds in 2 stages. Concentrated sulphuric acid was used as a catalyst. It was proved (Ref 2) that α-olefines C_5-C_7 of a normal structure in this reaction yield the ester of alkane acid which has by 1 carbon atom more than the initial olefine, and contains 2 methyl radicals in the molecule in α-position. In most cases, an ester of the isomeric acid with one ethyl radical in α-position originates in a smaller, but still considerable yield. In the 1st stage of synthesis, acyl-sulphuric acids (mixed sulphuric- and carboxylic-acid anhydrides) are temporarily formed which, in the 2nd stage, acylate the alcohols added. The present paper presents the results of the carbomethoxylation and carboethoxylation of cyclopentene and cyclohexene. Table 1 shows the ester synthesis from cyclo-olefines C_5-C_6. Table 2 shows the constants of the esters

Card 1/2

Synthesis of Carboxylic Esters From Carbon Monoxide, Cycloolefines and Alcohols

produced. Figures 1 and 2 present the distillation curves of these esters. There are 2 figures, 2 tables, and 12 references, 7 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR
(Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

PRESENTED: June 3, 1959, by B. A. Kazanskiy, Academician

SUBMITTED: May 27, 1959

SOV/62-59-5-36/40

5(3)

AUTHORS: Puzitskiy, K. V., Eydus, Ya. T., Khudyakov, Yu. T.

TITLE: On the Development of the Reaction of the Hydrogen-condensation of Carbon Monoxide With Ethylene Under a Pressure of 10 at (O protekanii reaktsii gidrokondensatsii okisi ugleroda s etilenom pod davleniyem 10 atm)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 5, pp 945 - 947 (USSR)

ABSTRACT: The hydrogen-condensation of carbon monoxide with ethylene mentioned in the title has hitherto been investigated only under atmospheric pressure. In this case it was carried out at a pressure of 10 at. A metal velocity modulation tube was used as reactor in this investigation, which was built into a catalyzing furnace with automatic temperature control. The usual cobalt-clay (1:2) catalyst was used. The outflowing gas volume was rheometrically measured. The experiments were carried out at 190°. All other investigation conditions differed in no way from those of references 1,2. For comparison, the investigations were carried out also under atmospheric pressure. The following was determined: the yield of heavy (H) and light (L) olefins in ml/mm^3 H+L and H+L+G (G= gaseous olefins) at various mixing

Card 1/2

On the Development of the Reaction of the Hydrogen-condensation of Carbon Monoxide With Ethylene Under a Pressure of 10 at

SOV/62-59-5-36/40

ratios CO + C_2H_4:H. CO was varied from 0.3-6.9%, C_2H_4:H ~ 3. The throughput was 100 hours $^{-1}$. From the data obtained (Tables 1-2) it was found that the total olefin yield is only half of that obtained under atmospheric pressure. P=1 at: H+L= =290 ml/mm^3, H+G+L= 525 ml/mm^3. P= 10at:H+L= 190 ml/mm^3 H+L+G= = 250 ml/mm^3. With an increase of the carbon monoxide content from 0.3 to 6.4% the yield of heavy olefins compared to light olefins increased, while the gaseous ones decreased considerably. The total yield increased. The same development was found also in the case of experiments carried out at pressures of less than 10 at. Herefrom the authors drew the conclusion that with increasing CO-content in the initial mixture the degree of polymerization of the obtained product increases. There are 2 tables and 5 Soviet references.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: November 12, 1958

Card 2/2

5(3)

AUTHORS: Puzitskiy, K.V., Terent'yeva, Ye.M., SOV/62-59-7-24/38
Eydus, Ya.T.

TITLE: On the Catalytic Hydrocondensation of Carbon Monoxide With Olefines. (O kataliticheskoy gidrokondensatsii okisi ugleroda s olefinami) XXI. Relations of Some Hydrocarbons With Conjugated Double Bonds to the Reaction of Hydrocondensation With Carbon Monoxide. (Soobshcheniye 21. Otnosheniye nekotorykh uglevodorodov s sopryazhennymi dvoynymi svyazyami k reaktsii gidrokondensatsii s okis'yu ugleroda)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 7, pp 1318 - 1323 (USSR)

ABSTRACT: The reaction mentioned in the title has hitherto been applied to monoolefines of the acyclic and alicyclic lines (Refs 1-3). In this paper the attempt is made to extend the reaction also to di-olefines with conjugated double bonds. The apparatus used is described in references 1-2. The initial products were technical butadiene-1,3 and cyclopentadiene-1,3. The conditions for the reaction were

Card 1/3

atmospheric pressure and a temperature of 190°. The activity of the contacts and the yield of hydropolymerisates were great: 500 - 600 ml/m^3 were obtained referred to ($CO_2 + H_2 + C_2H_4$). The results of the experiments with butadiene-1,3 are listed in tables 1-2. From the data is evident that at the beginning, the reaction takes a slow course. Also the condenser was consumed very rapidly by the reaction of hydrocondensation. In the presence of an amount of hydrogen, which was enough to condense the entire butadiene and which was mixed with propylene, the reaction developed quite well. In the hydrocondensation with cyclopentadiene a small amount (4 - 5 %) of its mono-,di- and tri-derivates was formed, so that the cyclo-pentadiene as well as the hydrogenized cyclopentene were methylated. The cyclo-pentadiene dimerized in an amount of 20 %. The results of the analysis of the single fractions are given in other tables. The figures show the curves of distillation of the

On the Catalytic Hydrocondensation of Carbon Monoxide With Olefines. XXI. Relations of Some Hydrocarbons With Conjugated Double Bonds to the Reaction of Hydrocondensation With Carbon Monoxide SOV/62-59-7-24/38

single fractions. There are 3 figures, 6 tables, and 8 references, 7 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR
(Institute of Organic Chemistry imeni N.D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: November 15, 1957

Card 3/3

5(3) SOV/79-29-9-45/76

AUTHORS: Puzitskiy, K. V., Eydus, Ya. T., Ryabova, K. G., Guseva, I. V.

TITLE: On the Synthesis of Carboxylic Acid Derivatives From CO, Olefins, and Compounds Which May Be Acylated, in the Presence of Acid Catalysts. II. Syntheses of Isobutylene- and Butylene Esters

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 3019-3026 (USSR)

ABSTRACT: In the present paper the experimental results concerning the carbalkoxylation of isobutylene and butylene are given. The first step of the synthesis of the esters was made according to Koch by reacting olefin with CO in the presence of concentrated H_2SO_4. Subsequently alcohol was added to the reaction mass instead of water. This led to good yields of esters of the carboxylic acids. The use of different alcohols led to different esters of the same acid. In experiments with only one alcohol a mixture of esters resulted with one or two esters predominating. The esters separated by rectification were identified among others according to the melting point of the

Card 1/3

On the Synthesis of Carboxylic Acid Derivatives From CO, Olefins, and Compounds Which May Be Acylated, in the Presence of Acid Catalysts. II. Syntheses of Isobutylene- and Butylene Esters

anilides obtained by the reaction with the esters with aniline magnesium bromide (Ref 5). The synthesis of the methyl- and ethyl esters from isobutylene and butylene, CO and methyl- and ethyl alcohol in the presence of sulphuric acid as catalyst takes place at increased pressure (80 atm) in higher yields than in normal case.The ester mixture obtained at increased pressure from isobutylene (about 65% yield, computed for the initial olefin and 100% for CO) contained esters of trimethyl acetic acid (53%), α,α-dimethyl butyric acid (6%), and α,α-dimethyl-valeric acid (3-5%). In the ester mixture obtained from butylene under the same conditions (37-38% yield, computed for olefin and 81-89% for CO) esters of the α-methyl butyric acid were obtained in yields from 53-60% and esters of trimethyl acetic acid in yields of 4%. The apparatus shown in figure 1 was used for the carboxylation of the olefins at atmospheric pressure. The conditions under which the experiments were carried out under pressure are shown in table 3. The curves and results of distillation of the ester mixtures are shown in figures 3,4 and in tables 4-7. There are 4 figures, 7 tables, and 15 ref-

SOV/79-29-9-45/76

On the Synthesis of Carboxylic Acid Derivatives From CO, Olefins, and Compounds Which May Be Acylated, in the Presence of Acid Catalysts. II. Syntheses of Isobutylene- and Butylene Esters

erences, 2 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences USSR)

SUBMITTED: July 7, 1958

Card 3/3

5.3400

77083
SOV/62-59-12-27/43

AUTHORS: Eydus, Ya. T., Puzitskiy, K. V., Guseva, I. V.

TITLE: Concerning the Catalytic Hydrocondensation of Carbon Monoxide With Olefins. Communication 25. The Influence of the Support on the Activity of Cobalt-Thorium Contact in the Hydrocondensation of Carbon Monoxide With Ethylene

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 12, pp 2213-2218 (USSR)

ABSTRACT: The above hydrocondensation was carried out in a flow system, with mixtures $C_2H_4:H_2$ = 1:0.8-1, containing 5-6% CO, at 190-200° and at atmospheric pressure. Space velocity was 100-120 hour^{-1}. Regeneration was carried out with H_2, at 450° for 3 hours. Catalysts were prepared by precipitation with K_2CO_3 from their nitrate solutions, in the presence of the support. Prior to use, they were regenerated in a hydrogen atmosphere at 400-450°. For the Co/ThO_2 catalyst, silica gel, aluminum oxide,

Card 1/3

Concerning the Catalytic Hydrocondensation of Carbon Monoxide With Olefins. Communication 25. The Influence of the Support on the Activity of Cobalt-Thorium Contact in the Hydrocondensation of Carbon Monoxide With Ethylene

77083
SOV/62-59-12-27/43

activated charcoal, and muslyumovsk clay were used as support. Contact 1. Co/ThO_2/silica gel (1:0.18:2) was inactive. Contact 2. Co/ThO_2/silica gel (2:0.18:2) gave the average yield after 10 hours, 33.5 ml/l · hour. Contact 3. Co/ThO_2/activated charcoal (1:0.18:2) was slightly active. The catalytical activity of Co/ThO_2 decreases with replacement of silica gel by active charcoal. Contact 4 was similar to contact 3, giving the lower yield. Contact 5. $Co/ThO_2/Al_2O_3$ (1:0.18:5) was active. The yield was 43.3 ml/l · hour. Ethylene reacted to the extent of 90-97%. 36-45% of it was converted into ethane. Several attempts (from 6 to 14) were made with muslyumovsk clay. It was found that the above clay (450^0) can be an effective support for the contact Co/ThO_2. Contact 15. Co/ThO_2/muslyumovsk

Card 2/3

Concerning the Catalytic Hydrocondensation of Carbon Monoxide With Olefins. Communication 25. The Influence of the Support on the Activity of Cobalt-Thorium Contact in the Hydrocondensation of Carbon Monoxide With Ethylene

77083
SOV/62-59-12-27/43

clay-activated charcoal (1:0.18:2:1). The activity was smaller. Contact 16. Co/ThO_2/muslyumovsk clay/Al_2O_3 (1:0.18:2:1). The yield was 41.4 ml/l · hour. Contact 17. The ratio of the above components was 1:0.18:2:2. The yield was almost halved (17.7 ml/l · hour). Thus, the activity of Co/ThO_2 contacts, depending on support, decreases, as follows: muslyumovsk clay > diatomite > aluminum oxide > activated charcoal > silica gel. There are 5 tables; 1 figure; and 2 Soviet references.

ASSOCIATION: Zelinskiy Institute of Organic Chemistry, Academy of Sciences, USSR (Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: May 4, 1958

Card 3/3

5.3300, 5.1190

SOV/62-60-1-20/37

AUTHORS: Eydus, Ya. T., Puzitskiy, K. V., Yershov, N. I., Kazanskiy, B. A.

TITLE: Catalytic Polymerization of Olefines. Communication III. Concerning the Activity of Nickel Monoxide-Silica Gel Catalyst in Ethylene Polymerization

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, Nr 1, pp 111-114 (USSR)

ABSTRACT: From 15 silica gel brands (ASM, ASK, KSK, ShSK, ShSM, MSM, KSM) only the brand KSK was found suitable for the preparation of active NiO-containing catalysts. KSK alone showed no catalytic properties with respect to ethylene polymerization. The activity of NiO-KSK catalysts prepared from various KSK samples was not uniform and showed wide variations. This could be explained by the presence of Al_2O_3 impurities which imparted catalytic properties to silica gel. This will be discussed in future studies. There are 4

Card 1/2

Catalytic Polymerization of Olefines. Communication III

79074
SOV/62-60-1-20/37

tables; and 9 references, 3 U.S., 3 Japanese, 3 Soviet. The 3 U.S. references are: H. D. Foster, Industr. & Engng. Chem., 29, 1254 (1937); F. H. Gayer, ibid., 25, 1122 (1933); S. J. Hetzel, R. M. Kennedy, Chem. Abstr., 43, 1213, 5640 (1949).

ASSOCIATION: N. D. Zelinskiy Institute of Organic Chemistry, Academy of Sciences USSR (Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: May 4, 1958

Card 2/2

5.1190, 5.3300

78075
SOV/62-60-1-21/37

AUTHORS: Ya. T. Eydus, Puzitskiy, K. V., Kazanskiy, B. A.

TITLE: Catalytic Polymerization of Olefines. Communication IV. Concerning the Polymerization of Ethylene Over Nickelous Oxide-Silica Gel Catalyst Promoted by Aluminum Oxide

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, Nr 1, pp 115-119 (USSR)

ABSTRACT: Continuing a previous study of silica gel-NiO catalysts (this journal, 1960, p 111, our abstract 78074), the authors investigated the polymerization of ethylene at 300° C under atmospheric pressure, using KSK silica gel-NiO catalysts with the addition of $Al(NO_3)_3 \cdot 9H_2O$ in concentrations varying from 0.025 to 10.0%. The addition of the latter increased considerably the activity of the catalyst. The activity changed little in the aluminum nitrate concentration range 0.5-10% but decreased rapidly at concentrations below 0.5%. Only KSK silica gel,

Card 1/3

as carrier of aluminum oxide, and nickelous oxide gave positive catalytic results. Catalysts prepared from NiO on other carriers, such as aluminum oxide, kieselguhr, various clays, or activated carbons were inactive. Catalyst $NiO-Al_2O_3$-KSK prepared from nickelous nitrate by precipitation with potassium carbonate were inactive. Catalyst obtained by precipitation with aqueous ammonia solution was active but insufficiently stable. Its regenerative capacity, as well as selectivity with respect to dimerization of ethylene was somewhat increased by addition of zinc oxide. There are 3 tables; 1 figure; and 6 references, 3 U.S., 1 U.K., 2 Soviet. The 4 U.S. and U.K. references are: S. J. Hetzel, R. M. Kennedy, U.S. Pat. 2452190 (1948); Phillips Petr. Co., Brit. Pat. 619231 (1949); J. P. Hogan, R. L. Banks, W. C. Lanning, A. Clark, Industr. & Engng. Chem., 47, 752 (1955); H. A. Cheney, S. H. McAllister, E. B. Fountain, J. Anderson, W. H. Peterson, ibid., 42, 2580 (1950).

Catalytic Polymerization of Olefines
Communication IV

78075
SOV/62-60-1-21/37

ASSOCIATION: N. D. Zelinskiy Institute of Organic Chemistry, Academy of Sciences USSR (Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii nauk SSSR).

SUBMITTED: May 21, 1958

Card 3/3

S/062/60/000/03/06/007
B008/B006

AUTHORS: Eydus, Ya. T., Puzitskiy, K. V., Kazanskiy, B. A.

TITLE: Catalytic Polymerization of Olefines. 6. Effect of Some Metal Oxides on the Activity of NiO-Al_2O_3-Silica Gel (KSK) Catalyst in Polymerization of Ethylene

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 3, pp. 513-518

TEXT: The effect of admixtures of copper, silver, zinc, magnesium, calcium, barium, thorium, and manganese oxides on the activity of a NiO-Al_2O_3-silica gel catalyst type KCK (KSK) was investigated. These admixtures were introduced by treating the boiling silica gel with aqueous solutions of the corresponding nitrate. For the rest, the methods and apparatus described in Refs. 1 and 2 were used. The results obtained are listed in Tables 1 and 2. For comparison, experimental data from experiments carried out using corresponding catalysts containing no metal oxide admixtures except Al_2O_3 are shown in Table 3. It was found

Catalytic Polymerization of Olefines. 6. Effect of Some Metal Oxides on the Activity of $NiO-Al_2O_3$-Silica Gel (KSK) Catalyst in Polymerization of Ethylene

S/062/60/000/03/06/007
B008/B006

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: July 21, 1958

Card 3/3

EYDUS, Ya.T.; PUZITSKIY, K.V.; YERSHOV, N.I.; KAZANSKIY, B.A.

Catalytic polymerization of olefins. Report No.8: Polymerization of ethylene over a nickel - aluminosilicate catalyst. Izv.AN SSSR Otd.khim.nauk no.5:920-925 My '60. (MIRA 13:6)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR.
(Ethylene) (Polymerization) (Catalysts)

EYDUS, Ya.T.; PUZITSKIY, K.V.; KAZANSKIY, B.A.

Catalytic polymerization of olefins. Report No.9: Activity of a nickel silicate deposited on an aluminosilicate in the course of ethylene polymerization. Izv.AN SSSR Otd.khim.nauk no.5:926-930 My '60. (MIRA 13:6)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR.
(Nickel silicate) (Ethylene) (Polymerization)

EYDUS, Ya.T.; YERSHOV, N.I.; PUZITSKIY, K.V.; GUSEVA, I.V.

Catalytic hydrocondensation of carbon monoxide with olefins. Report No.28: Activity of the cobalt - clay contact in the hydrocondensation of carbon monoxide with ethylene and polymerization of the latter under the influence of carbon monoxide. Izv. AN SSSR Otd.khim.nauk no.5:913-919 My '60. (MIRA 13:6)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR.
(Carbon monoxide) (Ethylene) (Catalysts)

KYDUS, Ya.T.; PUZITSKIY, K.V.; YERSHOV, N.I.; KAZANSKIY, B.A.

Catalytic polymerization of olefins. Report No.10: Effect of the temperature and contact time on the course of ethylene polymerization on nickel catalysts. Izv.AN SSSR.Otd.khim. nauk no.6:1114-1118 Jl '60. (MIRA 13:7)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii nauk SSSR.
(Ethylene) (Polymerization) (Catalysts, Nickel)

S/062/60/000/007/015/017/XX
B004/B064

AUTHORS: Eydus, Ya. T., Puzitskiy, K. V., Yershov, N. I., Guseva, I. V., and Kazanskiy, B. A.

TITLE: Catalytic Polymerization of Olefins. Communication 11. The Effect of Impurities in the Initial Gas and of the Material of the Test Tube Wall Upon the Course of the Polymerization Reaction of Ethylene on Nickel Catalysts

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 7, pp. 1291 - 1294

TEXT: The authors are concerned with studying the effects of all reaction conditions upon the catalytic polymerization of olefins. In the present paper, they report on the effect of impurities in initial ethylene, the influence exerted upon the catalyst by treating it with various substances, and finally the effect exerted upon catalysis by the material of the tube walls. Up to 5% propylene or up to 10% butylene were added to ethylene as impurities. Ethylene was polymerized

Card 1/3

Catalytic Polymerization of Olefins. Communication 11. The Effect of Impurities in the Initial Gas and of the Material of the Test Tube Wall Upon the Course of the Polymerization Reaction of Ethylene on Nickel Catalysts

S/062/60/000/007/015/017/XX
B004/B064

to butylene on a $NiO-Al_2O_3$ catalyst. While an addition of 0.5 to 3% impurities showed no effect, the activity of the catalyst decreased at higher amounts of admixtures (yield without addition: 82%, with an addition of 5%: 56.2%). An addition of 30 - 40% H_2 or preliminary treatment of the catalyst with H_2 (yield without H_2: 58.8%, with H_2: 23.0%) showed the same effect. The water vapor content of ethylene also reduced the activity of the catalyst. On comparing the activity of the catalyst in test tubes of glass, brass, or stainless steel it was found that in the steel tube the yield in polymers and the regeneration capacity of the catalyst decrease: maximum yield in the glass- and brass tubes 71.2%, in the steel tube 64.7%. There are 1 figure, 5 tables, and 2 Soviet references.

Card 2/3

Catalytic Polymerization of Olefins. Communication 11. The Effect of Impurities in the Initial Gas and of the Material of the Test Tube Wall Upon the Course of the Polymerization Reaction of Ethylene on Nickel Catalysts

S/062/60/000/007/015/017/XX
B004/B064

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR
(Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: November 12, 1958

Card 3/3

S/079/60/030/011/018/026
B001/B055

AUTHORS: Eydus, Ya. T., Puzitskiy, K. V., and Sterligov, O. D.

TITLE: Acid-catalyzed Synthesis of Esters and Other Derivatives of Carboxylic Acids From Carbon Monoxide, Olefins, and Compounds Capable of Acylation. IV. Carbomethoxylation of Amylenes of Different Structures

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 11, pp. 3799-3802

TEXT: The present publication is an investigation on the carbomethoxylation of the following isomeric amylenes by a method developed by the authors in earlier studies (Refs. 1-4): 1-pentene, 3-methyl 1-butene, 2-methyl 1-butene, and 2-methyl 2-butene. As in the earlier papers (Refs. 1-4), the reaction of the olefin, carbon monoxide and catalyst (concentrated H_2SO_4) in the first stage of the reaction, which involves formation of acyl sulfuric acid as intermediate, proceeded at an initial CO pressure of 80 atm and at temperatures of 20 - 40°C. Addition of methanol to the reaction mixture transforms the acyl sulfuric acid into its methyl ester in the second stage

Card 1/3

Acid-catalyzed Synthesis of Esters and Other Derivatives of Carboxylic Acids From Carbon Monoxide, Olefins, and Compounds Capable of Acylation. IV. Carbomethoxylation of Amylenes of Different Structures

S/079/60/030/011/018/026
B001/B055

of the reaction. Methyl esters were obtained from 1-pentene in 54% yield, and from the branched amylenes in 64 - 69% yields, as calculated for initial olefin. 2-Methyl 2-butene gave the highest yield (69%). Methyl-1,1-dimethyl butyrate was obtained as the main reaction product from all isomeric amylenes. The mixture of esters from 1-pentene contained 50.5% of this ester, that from 3-methyl 1-butene 61%, from 2-methyl 1-butene 45%, and from 2-methyl 2-butene 35%. The structures of the remaining reaction products varied according to whether the initial compound had been n-amylene or branched amylene. In analogy to the results obtained with 1-hexene and 1-heptene, 1-pentene yielded methyl-1-ethyl butyrate, as second reaction product, which constituted 27.5% of the ester mixture obtained. Methyl-1-ethyl butyrate was not detected among the reaction products from branched amylenes, which are partly transformed to methyl-trimethyl acetate (4 - 10%), 1,1-dimethyl valeric acid (0 - 5%), and higher acids (30 - 50%). There are 1 figure, 2 tables, and 16 references:

Card 2/3

Acid-catalyzed Synthesis of Esters and Other Derivatives of Carboxylic Acids From Carbon Monoxide, Olefins, and Compounds Capable of Acylation. IV. Carbomethoxylation of Amylenes of Different Structures

S/079/60/030/011/018/026
B001/B055

6 Soviet, 4 US, 1 British, 3 German, 1 Italian, and 1 French.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences USSR)

SUBMITTED: December 18, 1959

Card 3/3

EYDUS, Ya.T.; PUZITSKIY, K.V.

Synthesis of esters by the action of the carbalkoxy groups of olefins in the presence of carbon monoxide. Neftekhimiia 1 no.1:82-87 Ja-F '61. (MIRA 15:2)

1. Institut organicheskoy khimii AN SSSR, imeni N.D.Zelinskogo.
(Esters)

EYDUS, Ya. T.; PUZITSKIY, K.V.; GUSEVA, I.V.

Synthesis of esters and other derivatives of carboxylic acids under conditions of oxidative catalysis from carbon monoxide, olefins, and compounds subject to acylations. Part 5: Synthesis of esters of cis-9-decalincarboxylic acid from cyclopentene and of 4,7-endomethylenehydrindancarboxylic acid from 4,5,6,7,8,9,-hexahydro-4,7-endomethylenindene. Zhur. ob. khim. 31 no.4:1324-1328 Ap '61. (MIRA 14:4)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Naphthalenecarboxylic acid)
(Indancarboxylic acid)

PUZITSKIY, K.V.; EYDUS, Ya.T.; RYABOVA, K.G.

Synthesis of esters and other derivatives of carboxylic acids under conditions of acid catalysis from carbon monoxide, olefins, and acylating compounds. Part 6: Synthesis of esters from -olefins C_8–C_{10} of normal structure. Zhur.ob.khim. 31 no.5:1689-1692 My '61. (MIRA 14:5)

1. Institut organicheskoy khimii AN SSSR imeni N.D.Zelinskogo.
(Acids, Organic) (Olefins)

25393

S/080/61/034/002/013/025
A057/A129

5.3400

AUTHORS: Pugitskiy, K.V., Sterligov, O.D., Belen'kaya, A.P., Eydus, Ya.T.

TITLE: Preparation of carboxylic acid esters from amylene mixtures

PERIODICAL: Zhurnal Prikladnoy Khimii, v 34, no 2, 1961, 366-369

TEXT: Carboxylic acid methyl esters were obtained with a 55-63% yield by carbomethoxylation of amylene mixtures with different structure. The main product is methyl ester of α,α-dimethylbutyric acid, i.e., a carboxylic acid ester with a quarternary carbon atom in α-position. Amylenes are important for the manufacture of high-octane compounds in gasoline or for detergents. In a previous paper (Ref 3: ZhOKh, 30, 3799 (1960)) the present authors investigated syntheses of carboxylic acid esters from single amylenes with various structures using H_2SO_4, CO and CH_3OH and observed that the main reaction product is always the methyl ester of $\alpha\beta$-di-

Card 1/5

Preparation of carboxylic acid esters ...

methylbutyric acid. Thus the latter was also to be expected as main reaction product from a mixture of amylenes. In the present experiments catalyzates of the dehydrogenation of iso-pentane and n-pentane, as well as the pentane-amylene fraction of thermal cracking products of gas oil (Tab.1) were carboxymethylated. Reactions and identification of the obtained esters were carried out in procedures described already in the previous paper (Ref 3). Conditions and the obtained results were presented in Table 2,3. There is 1 figure, 3 tables and 14 references: 6 Soviet-bloc and 8 non-Soviet-bloc. Three of the English-language references read as follows: F.C. Whitmore, F.A. Karnatz, J. Am. Chem. Soc., 60, 2533 (1938); D.V.N. Hardy, J. Chem. Soc., 464 (1938), J.M. Holbert, J. Am. Pharm. Assoc. Sci. Ed., 35, 315 (1946).

SUBMITTED: March 14, 1960

Card 2/5

PUZITSKIY, K.V.; EYDUS, Ya.T.; RYABOVA, K.G.

Synthesis of carboxylic acids and their esters under conditions of acid catalysis from carbon monoxide and alcohols. Dokl. AN SSSR 141 no.3:636-637 N '61. (MIRA 14:11)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR. Predstavleno akademikom B.A. Kazanskim.
(Acids, Organic) (Carbon monoxide)
(Alcohols)

EYDUS, Ya.T.; PUZITSKIY, K.V.; GUSEVA, I.V.

Synthesis of esters and other derivatives of carboxylic acids under conditions of acid catalysis from carbon monoxide, olefins, and acylating compounds. Part 7: Conversion of C_4-C_7 alcohols to carboxylic acids and their esters with the aid of formic acid. Zhur.ob.khim. 32 no.9:2983-2989 S '62. (MIRA 15:9)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.
(Alcohols) (Acids, Organic) (Formic acid)

EYDUS, Ya.T.; PUZITSKIY, K.V.; RYABOVA, K.G.

Synthesis of esters and other derivatives of carboxylic acids under conditions of acid catalysis from carbon monoxide, olefins, and acylating compounds. Part 8: Synthesis of carboxylic acids and their esters from C_3 - C_5 alcohols and carbon monoxide. Zhur.ob.khim. 32 no.10:3198-3201 O '62. (MIRA 15:11)

1. Institut organicheskoy organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

(Acids, Organic)
(Alcohols) (Carbon monoxide)

PUZITSKIY, K.V.; RABINOVICH, A.Yu.; EYDUS, Ya.T.

Synthesis and surface-active and cleansing properties of sodium salts of α,α-dimethylalkanoic acid. Zhur.prikl.khim. 35 no.12: 2740-2745 D '62. (MIRA 16:5)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR i Moskovskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta zhirov.
(Acids, Fatty) (Sodium salts) (Cleaning compounds)

PUZITSKIY, K.V.; EYDUS, Ya.T.; RYABOVA, K.G.; GUSEVA, I.V.

Synthesis of esters and other derivatives of carboxylic acids under conditions of acid catalysis from carbon monoxide, olefins, and acylating compounds. Part 9: Synthesis of carboxylic acids and their esters from (C_6-C_{10}) saturated alcohols. Zhur.ob.khim. 33 no.4: 1269-1273 Ap '63. (MIRA 16:4)
(Acids, Organic) (Esters) (Alcohols)

PUZITSKIY, K.V.; EYDUS, Ya.T.; RYABOVA, K.G.

Synthesis of carboxylic acid esters from unsaturated hydrocarbons, donors of hydride ions. Zhur. ob khim. 33 no.10:3278-3282 O '63. (MIRA 16:11)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.

EYLUS, Ya.T.; FUKITSKIY, K.V.

Catalytic synthesis of carboxylic acids and their esters from carbon monoxide, olefins, and alcohols. Usp. khim. 33 no.8: 991-1016 Ag '64. (MIRA 18:3)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.

PUZITSKIY, K.V., kand.khim.nauk

Conference on the Chemistry and Physics of surface-active Substances and their Technological Uses. Vest. AN SSSR 34 no. 1:86-87 Ja '64. (MIRA 17:5)

PRISHLYAK, V.Z.; KOBLAY, D.S.; DIK, I.I.; PUZIY, Ya.S.; YAREMENKO, I.A.; KOLESNIK, G.K.; DEGERIN, E.R.; MEL'NIK, P.A.

From the editor's mail. Sakh. prom. 36 no.9:68-70 S '62. (MIRA 16:11)

1. Khodorovskiy sakharnyy kombinat (for Prishlyak). 2. Shpanovskiy sakharnyy zavod (for Koblay). 3. Kanevskiy sakharnyy zavod Krasnodarskogo kraya (for Dik). 4. Korenovskiy sakharnyy zavod Krasnodarskogo kraya (for Puziy). 5. Sumskoy sakharnyy trest (for Yaremenko). 6. Leningradskiy sakharnyy zavod Krasnodarskogo kraya (for Kolesnik). 7. Kurskiy sovet narodnogo khozyaystva (for Degerin). 8. Zhdanovskiy sakharnyy zavod (for Mel'nik).

PUZIY, Ya.S.

Growing beet seed without transplanting in Krasnodar Territory. (MLRA 10:8)
Sakh.prom. 31 no.7:52-56 Jl '57.
(Krasnodar Territory--Sugar beets)

PUZIY, Ya. S.

USSR (600)

Plowing

Furrow-ridge plowing and its application. Dost. Sel'kholz. no. 7, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

PUZJAK, Ivan, inz.

Magnetic amplifier use in revolution changes of an asynchronous motor. Automatizace 5 no.2:39-40,56 F '62.

1. Ceskoslovenska akademie ved, Elektrotechnicky ustav Slovenske akademie ved.

Z/042/63/000/001/001/003
E140/E463

AUTHOR: Puzjak, Ivan, Engineer, Candidate of Sciences

TITLE: Anode current of a three-phase bridge-type rectifier without smoothing choke and with series R,L

PERIODICAL: Elektrotechnický časopis, no.1, 1963, 3-17

TEXT: In the paper an analytical expression for the anode current of a three-phase bridge-type rectifier without a smoothing choke, working into a load with d.c. counter voltage, is derived where the influence of the power supply's internal impedance is taken into account by a series resistance and inductance in the rectifier input. The theoretical results have been experimentally verified. There are 14 figures and 2 tables.

ASSOCIATION: ČSAV, Elektrotechnický ústav SAV, Bratislava-Patrónka, Dúbravská cesta (Czechoslovak AS, Electrotechnical Institute SAV, Bratislava-Patrónka, Dúbravská cesta)

SUBMITTED: September 9, 1962

Card 1/1

PUZJAK, I.

Measurement of homogeneity of the magnetic field of a large electromagnet by means of Hall generators. El tech cas 14 no.5:310-314 '63.

[illegible]ák, Ivan, inz. CSc.

Current conditions of a three-phase bridge rectifier without smoothing choke, fed from a soft source. El tech obzor 53 no. 8:430-434 Ag '64.

1. Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava.

ULJAK, I.

Electroluminescence, the lamp of the future. p. 120. TECHNICKA PRACA. (Statne nakladatelstvo technickej literatury) Vol. 6, no. 2, Feb. 1954.

SOURCE: East European Accessi n List, Vol. 5, no. 9, September 1956

PUZJAK, I.

Electroluminescent source of light, p. 205. (Strojnoelektrotechnicky Casopis. Bratislava, Vol. 4, No. 2, 1953)

SO: Monthly list of East European Accessions, (EEAL), LC Vol 4, No. 6, June 1955, Uncl

PUZJAK, Ivan, inz., C.Sc.

Anode current of a three-phase bridge rectifier without a smoothing choke and with series R,L. El tech cas 14 no.1:3-17 '63.

1. Vedecky pracovnik, Ceskoslovenska akademie ved, Elektrotechnicky ustav Slovenskej akademie vied, Bratislava - Patronka, Dubravska cesta.

PUZMAN, J.

"Collection of papers on cybernetics" edited by A.A. Ljapunov [Lyapunov, A.A.], O.B. Lupanov, N.N. Rikk. Reviewed by J. Puzman. Automatizace 6 no.5:n.p. My '63.

PUZMAN, J.

"Logic and switching circuits" by A.M.Hiltonova [Hilton, A.M.]. Reviewed by J.Puzman. Automatizace 6 no.9:Suppl.:Technicka literatura no.9:insert S '63.

PUZMAN, Josef, inz.

"Bionics" by L.P.Krajzmer [Krayzmer, L.P.]. Reviewed by Josef Puzman. Automatizace 6 no.12:Suppl.:Technicka literatura:insert D '63.

PUZMAN, Josef, inz.; PRIBYL, Jiri, inz.

Frequency dividers in the pulse technique. Sdel tech 10 no.11:409-412 N '62.

S/194/62/000/007/018/160
D222/D309

AUTHORS: Smagovič, Vaclav, and Pužman, Josef

TITLE: Methods of discriminating (analyzing) printed or handwritten signs

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1962, abstract 7 -1-80 s (Automatizace, 1961, 4, no. 12, 356 - 359 [Czech.; summaries in Rus., Ger., Eng. and Fr.])

TEXT: Problems in the recognition of printed or written signs (letters, digits) are of decisive importance for the construction of a reading machine which could be used in many branches of technology. Reading machines contain the following basic parts: input unit, usually of a mechanical type; scanning unit, memory unit for the storage of standard (template) signs; converter; output unit. The analysis of the signs is accomplished by scanning them, discovering their characteristic properties and comparing these with the standard signs. Pattern recognition methods can be divided into two groups - absolute and relative, of which the latter are more econo-

Card 1/3

Methods of discriminating ...

mical and simpler. The photoelectrical scanning of the image is either independent of the form of the signs, or it is determined by their contours. There is also topological methods of scanning, based on the forms of the curves defining the contours of the signs (one single curve C, S, U, two separate curves Č, Š, Ü, etc.). At present, machines using rectangular, polar (spiral) or other types of scanning (which is independent of the form of the sign) are elaborated more completely. In pattern recognition it is very important to distinguish accurately between the sign and the background noise due to the electronic devices in the reading machine and to the methods of representation (the use of magnetic ink, etc.). A great number of reading machines are based on a rectangular scanning system using mechanical (Nipkow disc) or electronic methods. With mechanical scanning each character is converted into 25-30 pulses which ensures a reading speed of up to 3600 words per minute. In the machine made by Solartron (USA) an electronic scanning system is used with a vertical raster and an additional system of modulation. This machine reads the printed figures 0-9, 10, 11, 1/2 and the sign +. The reading speed is 300 characters per second with one error in every 10^6 characters. In the machine Sprick a spiral

Card 2/3

scanning system is used and the characters read are projected onto the photocathode of an iconoscope, forming an electrical relief. During the recognition of characters the derivative of the voltage on the mosaic elements is used. This machine is capable of reading both printed and hand-written texts. Among the machines using a scanning of the contour (follower scanning) there is another Sprick machine which is based on principles of differential goemetry, and also machines with parallel reading using the method of optical congruence. Machines based on topological principles are not yet in wide use and work on their construction is only beginning. 9 figures. 10 references. [Abstracter's note: Complete translation.]

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"Synthesis of digital automatic computers" by V.M.Gluskov [Glushkov, V.M.]. Reviewed by J.Puzman. Automatizace 8 no.3:Suppl:Technicka literatura:insert Mr '65.

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1. L'vovskiy gosudarstvennyy universitet.
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PUZON, L.

On the 36th anniversary of the great socialist Revolution. p. 401. (PRZEGLAD KOLEJOWY, Vol. 5, No. 11, Nov. 1953, Warszawa, Poland)

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GERASIMENKO, G.P.; PUZOSHCHATOV, D.F.

Normalizing compressor performance in high mountain mines.
Izv.vys.ucheb.zav.; tsvet.met. 2 no.6:17-25 '59.
(MIRA 13:4)

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(Compressors)
(Mining engineering--Equipment and supplies)

Puzdrenkova, I. V.

PHASE I BOOK EXPLOITATION SOV/3850

SOV/9-M-8(11)

Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii imeni V. I. Vernadskogo. Komissiya po analiticheskoy khimii

Spektrofotometricheskiye i kolorimetricheskiye metody analiza (Spectrophotometric and Colorimetric Methods of Analysis) Moscow, 1958. [illegible] (Series: Its: Trudy, tom. 8 (11) Errata slip inserted. 3,000 copies printed.

Resp. Ed.: I. P. Alimarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: V. M. Ioshkova; Tech. Ed.: [illegible]

PURPOSE: The publication is intended for chemists, particularly analytical chemists and geochemists.

COVERAGE: This collection of 29 articles is published as Volume VIII (XI) of the Transactions of the Committee on Analytical Chemistry of the [illegible] Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, [illegible] of Sciences USSR. The general subject of the volume is [illegible] spectrophotometric and colorimetric analysis. [illegible] the following topics may deserve special attention: the [illegible] absorption analysis, the sensitivity of the colorimetric [illegible] organic analysis, the basic variations of the kinetic method of analysis, spectrophotometric investigation of heteropolyacids of germanium, a new colorimetric method of determining small quantities of thallium, a fluorimetric method of determining uranium, spectrophotometric investigation of the behavior of oxidation-reduction indicators, a [illegible] acoustical method of gas analysis, and a description of an automatic spectrophotometric gas analyzer. No personalities are mentioned. References are given at the end of each article.

TABLE OF CONTENTS:

Card 2/

PUZJAK, I.

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124-58-9-9773

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 42 (USSR)

AUTHORS: Puzoshchatov, D. F., Nepomnyashchiy, V. P.

TITLE: The Control of Centrifugal Blowers by Means of Air Feeding Into the Suction Pipe (Regulirovaniye tsentrobezhnykh nasosov podvodom vozdukha na vsasyvayushchuyu trubu)

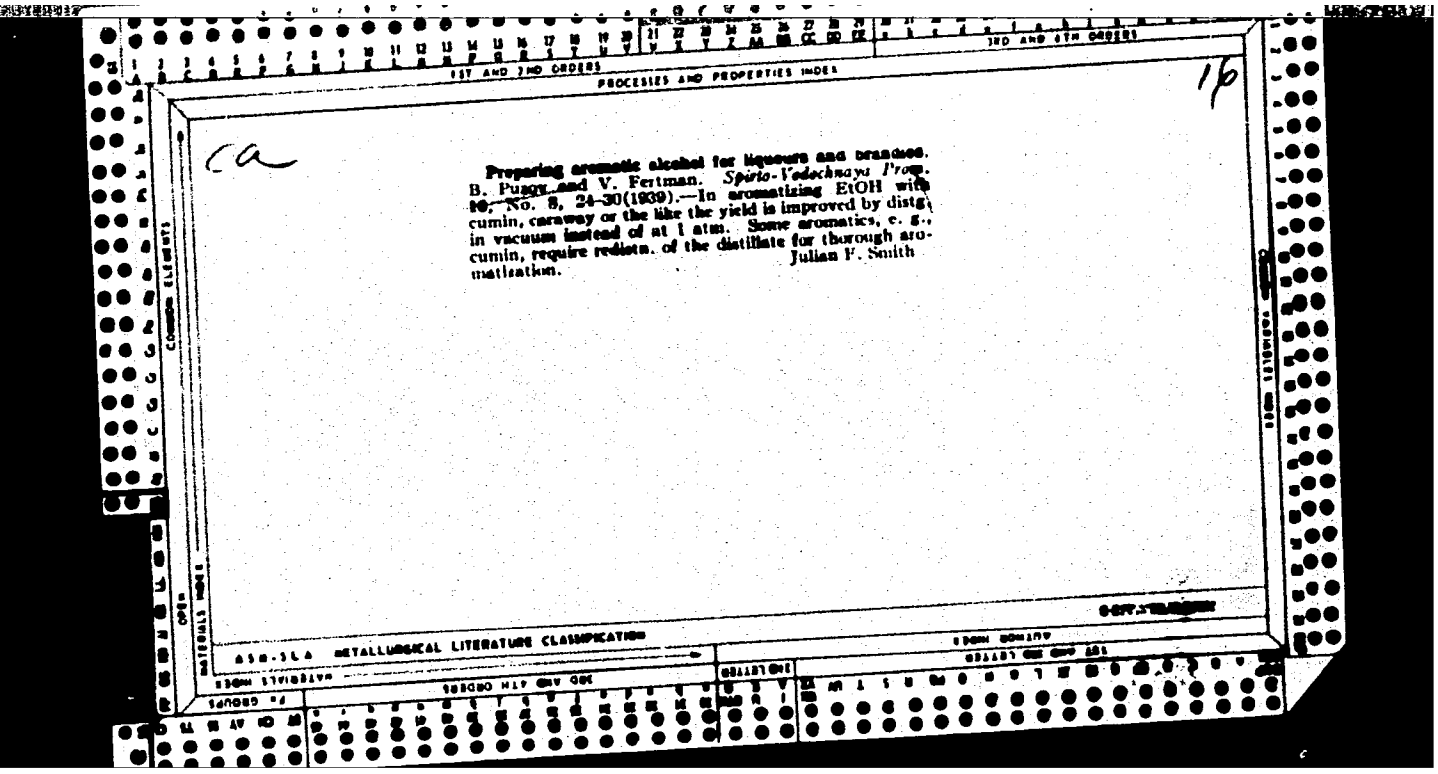
PERIODICAL: Sb. nauchn. tr. Severo-Kavkazsk. gornometallurg. in-t, 1957, Nr 14, pp 242-250

ABSTRACT: Theoretical reasonings and the results of experimental verification are adduced relative to the control of a centrifugal blower by low-level air feeding into the suction pipe. It is established that such a method of control, firstly, is stable through an output range between 50 and 100 percent of rated output and, secondly, is 10 percent more efficient than control by means of a slide valve. Bibliography: 2 references.

1. Blowers--Control systems 2. Blowers --Performance

G. A. Varshavskiy

Card 1/1



1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

16

Determining essential oils in raw and intermediate materials in the liquor industry. B. Pusov and V. Fertman. *Spirto-Vodochnaya Prom.* 16, No. 12, 31-3(1930).—Essential oils are detd. by extg. the sample with benzene in presence of satd. NaCl brine and measuring the vol. of the oil layer. Data are presented for orange, coriander and anise oils.

Julian F. Smith

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PUZA, A.[deceased]; PUZOVA, Hana

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Folia biol. (Praha) 9 no.4:241-249 '63.

1. Institute of Experimental Biology and Genetics, Czechoslovak Academy of Sciences, Prague and Chair of Microbiology of the Medical Faculty, Safarik University, Kosice.
(KIDNEY TRANSPLANTATION) (EXCHANGE TRANSFUSION)
(IMMUNOLOGY) (MERCAPTOPURINE)